# A TRADITIONAL SCHOOL'S APPROACH TO IMPLEMENTING MODULAR-FLEXIBLE SCHEDULING

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by

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# CHAPTER I

## INTRODUCTION

American education is undergoing tremendous change. Staggering challenges brought about by the contemporary demand for quality education for a bulging and diverse student population must be met. In their book, Guide to Better Schools, Trump and Bayhanam write that:

> Those who work in local schools and those who support them can adopt any one of three basic attitudes toward change. They can turn their backs on the times we live in and oppose change. They can wait while others study, demonstrate, thus delaying action in their own schools, denying potential advantages to students, and limiting possible improvements in job satisfaction of teachers. Or they too can, spear-head change by encouraging experimentation with new ideas and by helping the public who support the schools see the nature of the change and the results accomplished.[1]

The tremendous demands of present-day society require school districts to conduct continuing evaluation of their educational programs. They must be given the kind of training and educational opportunities which will permit them to keep pace with the challenges of automation and other technological advances, and at the same time, help them understand and interpret their interests, their capabilities, and their goals. The individual learner must be

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[1] J. Lloyd Trump and Dorsey Bayhanam, Guide to Better Schools (Chicago: Rand McNally and Co., 1961), pp. 11-12.

the center of the educational process. Under the traditional schedule with from six to seven or more periods of forty-five or more minutes this concept is too often ignored.

Change should not occur without analysis and thought. Criticism for and against what is done in today's high schools must be substantiated by those offering the comments.

W. Deane Wiley and Lloyd K. Bishop in a provacative article on flexible scheduling stated:

> If the reader finds reasonless and purposeless as improper adjectives to describe much of what is now called high school education, then he must be prepared to argue and defend proper educational answers to such questions as:
> 1. Why do conventional schedules provide highest priority in scheduling band, orchestra, and the sports program?
> 2. What is the educational basis for assigning the same amount of time to different educational tasks as those posed in the art program, history, English, science, or mathematics?
> 3. What is the basis for the present assumption that the learning processes in history are identical to those required in science and mathematics?
> 4. What is the basis for the continued emphasis on credit earned as a criteria for knowledge gained?
> 5. In what way does the conventional schedule promote an individualized approach to learning on the part of the student? The teacher?[1]

Generally speaking, old solutions for new problems will not suffice. One of the more promising innovations in secondary school education during recent years has been the development of modular-flexible scheduling.

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[1]W. Deane Wiley and Lloyd K. Bishop, The Flexibly Scheduled High School (West Nyack, New York: Parker Publishing Inc., 1968), pp. 23-24.

# I. THE PROBLEM

Statement of the problem. The purpose of this study was to explore the problems encountered when high schools, of from three hundred to five hundred students in grades ten through twelve, implemented a modular-flexible schedule. It was also the purpose of this study to discuss some of the more promising solutions used by selected schools (see Appendix A) to meet these problems. It was found that much had been written concerning the theory of the Trump Plan[1] but little had been presented about the procedures used by schools and the problems met while adopting this innovation. Trump advocated an educational program which would individualize instruction for all students. In order to do this he recommended large-group instruction, small-group instruction and independent study. This could best be done by adopting a modular-flexible schedule. It was the purpose of this study to present the procedures followed and the problems met at the Nevada Community School, Nevada, Iowa, when this school changed from a traditional approach to scheduling, to a modular-flexible approach to scheduling.

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[1] J. Lloyd Trump, "Images of the Future," (Washington D. C.: National Association of Secondary School Principals, 1959).

Importance of the study. The explosion of knowledge renders a new curriculum obsolete almost before it is put into practice. Changing occupational patterns require that training programs in schools achieve a high degree of flexibility and considering the wide range of human abilities and the circumstances which individuals must face, the necessity for a flexible rather than a rigid approach to the construct of education becomes readily apparent.[1]

In our advanced culture it is difficult to understand primitive people. It is almost impossible to understand how they could hold sacred those objects which today are thought of as being common and ordinary. Yet with all the enlightenment of modern society there are still a few "sacred cows." Jay Formsma listed the "sacred cows" in education which must be eliminated:

1. All classes should be fifty-five minutes in length.
2. All students must be in school and under supervision all day, every day.
3. Study halls are essential to the operation of a secondary school.
4. Learning takes place only as a faculty member directs the students in class or assigned work.
5. All students have the same needs, same skills, same preparation, same capacity, same motivations, and same objectives.[2]

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[1]Dwight Allen and Robert Bush, A New Design for High School Education (New York: McGraw-Hill, Inc., 1964), p. 10.

[2]David Beggs III and Edward G. Buffie, Independent Study (Bloomington: Indiana University Press, 1968), pp. 110-114.

It is time for those in education to eliminate these "sacred cows" and promote present educational programs that are effective. John Gardner, former Secretary of Health, Education and Welfare, said, "All too often we are giving our students cut flowers when we should be teaching them to grow their own plants."[1] Advocates of flexible scheduling say it is a better way of organizing time. It opens up the classroom box, exposes each student to more teachers, more progress and more materials.

More cautious school administrators view flexible scheduling in an entirely different light. For them it means chaos in the central office, confused students, wasted time, unending paper work, elaborate data processing equipment and total commitment to a method from which it is hard and often impossible to change.

It is the belief of this writer that modular-flexible scheduling is a better way of organizing the school's program. It is hoped that this study may be used by those who might consider using the modular-flexible scheduling approach and that it will help them avoid and solve some of the problems that may be encountered.

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[1]John Gardner, Welch School Administration Digest, IX (November 2, 1968), 15.

## II. DEFINITIONS OF TERMS USED

One of man's persisting problems is precise, effective communication. In education as in other fields, the jargon plagues us. "Flexible" implies variability, pliability, fluidity; "Schedule" implies uniformity, regularity, stability. The combination of flexible and schedule at the outset seems a gross contradiction. When one looks beyond the words a new concept comes into focus.[1]

As Manlove and Beggs report, the modular-flexible schedule is an organization for instruction which:

1. calls for classes of varying size within and between courses. (Students sometimes may meet in large assembly classes, and other times in small inquiry classes.) In addition, part of the day will be spent in individual or independent study.
2. provides for instructional groups which meet at varying frequencies and for varying lengths. (Some classes may meet every day of the week, others will not. Some instructional sessions will be for a short duration, others for an extended time.)
3. makes team teaching possible in any content area or for any group of students in the school.
4. requires countless professional decisions by teachers about students, content, and teaching methods.[2]

The following is a listing of terms which are unique to this study.

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[1] Donald C. Manlove and David W. Beggs III, Flexible Scheduling (Bloomington, Indiana: Indiana University Press, 1968), p. 22.

[2] Ibid., p. 23.

Modules. Modules are time periods of varying lengths which occur during the school day. The most widely used modules are fifteen and twenty minutes in length. At the Nevada Community High School modules of twenty minutes each were established.

Modular-flexible scheduling. Modular-flexible scheduling is a method of organizing the school day in such a manner that provisions are made for various types of activities which the teacher has planned. These activities might be a lecture, film, test or discussion period. Time periods for these activities vary in length from twenty to eighty minutes.

Large-group instruction. This type of instruction involves large numbers of students and places primary emphasis on the presentation of materials by the teacher (or teachers) with a minimum of student-teacher interaction. Large-group instruction is used for demonstrations, lectures, films, testing and other activities where student-teacher interaction is not necessary. By presenting the material once to a large number of students rather than several times to smaller groups of students the teacher is given more time to prepare instructional materials and to work with individual students.

Small-group instruction. Small-group instruction involves a relatively small group of students (no more than fifteen) with emphasis placed upon interaction among the students. Learning takes place best when the student becomes involved in the learning process. In traditional classes of thirty or more students many members of the class do not have the opportunity to communicate and become involved.

Individualized instruction. Individualized instruction is an educational process which provides each student with instructional materials which are selected on the basis of his needs and abilities. Students are scheduled into classes which fulfill his own specific needs and wants.

Independent study. Independent study is a learning activity motivated largely by the learner's own aims to learn and reward is largely in terms of its intrinsic values. As carried on under the auspices of secondary schools, such activity is somewhat independent of class or other group-instructional practices. It utilizes the services of teachers and other professional personnel primarily as resource persons and provides guidance for the learner.

Unstructured time. Unstructured time is that period of time when students are not scheduled into formal class

situations. In a school with modular-flexible scheduling students are free to visit the library, laboratories, resource centers, audit classes, or visit the Commons. The responsibility is placed on the student to utilize his time most effectively. The student is not supervised during this time unless he has proven by his actions that he cannot assume this responsibility.

Commons area. In this area students are allowed to relax and have refreshments during unstructured time. At Nevada this area contains two soft drink and two ice cream machines. This area is supervised by student council members and it is their responsibility to maintain order and see that the area is tidy.

Directed study halls. Directed study halls are areas to which certain students are assigned who have demonstrated they are unable to make proper use of unstructured time. Directed study halls are completely teacher controlled. Students are not allowed to talk or move about. Students are required to be in this study hall during all periods of the school day when they do not have classes scheduled.

Instructional materials centers. Instructional materials centers are areas located in different parts of the school where books, audio-visual materials and other

instructional materials are located. These areas may be located in departments such as social studies, science and mathematics or may all be in a central location. Materials will vary from department to department. In Nevada, all instructional materials are in one centrally located area.

## III. LIMITATIONS

The major portion of this study centers around the Nevada Community School. Forty-five schools were surveyed in Iowa and five in states other than Iowa. A total of eight schools were visited in connection with this study. Six of these were located in Iowa and two were outside of Iowa. A list of schools surveyed and visited is found in Appendix A of this study.

Since the school where the major portion of this study was conducted had only used this type of schedule for one semester, the study was limited to the 1967-68 school year and the summer of 1968 which was the period prior to implementation and the fall semester of the 1968-69 school year when modular-flexible scheduling was implemented.

## IV. REVIEW OF THE LITERATURE

These are exciting times for one to be working in the schools of the United States. Long a Rip Van Winkle,

American education is awakening. Dynamic new approaches to old problems are being proposed and tested.[1] Curriculum reform is in the air. Modern mathematics, new approaches to sciences, increased emphasis and new methods of teaching foreign languages, and readjustments of the social studies are practices no longer foreign to the public schools. Many new programs are in evidence.

Although the new programs have been successful in improving instruction, other organizational changes must be made in the schools if the goal of individualizing instruction for all students is to be achieved. As Manlove and Beggs wrote:

> New curricula alone are not enough to achieve the goal of quality education. The full potential of the new curricula cannot be realized within the organizational framework of the conventional school. There is a need for the school to be organized to encourage students to be involved and active in the learning process, to allow teachers to meet students for individual and small group discussion, and to vary the pace and content of instruction for each student.[2]

When thinking about secondary education in the future, if one is genuinely interested in improving the quality of teaching and learning, there are a number of changes that are imperative. J. Lloyd Trump has said there are four changes that must be made immediately:

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[1]Manlove and Beggs, op. cit., p. 19.

[2]Ibid., p. 22.

1. change the nature of presentation,
2. change the character of independent study,
3. provide for student discussion,
4. change the process of evaluation.[1]

Of the preceding four changes the first three would be more easily achieved in a school with modular-flexible scheduling.

In the film, "And No Bells Ring," it appears that many of the difficulties besetting educators seeking to meet the problems presented by student differences tend to fall away when the idea of the teacher-classroom organization is abandoned, and the possibilities of greater flexibility are recognized. This flexibility is to be noted particularly in class and room size, in staff utilization, and in flexible scheduling.[2]

If present day schools are to be significantly better, they must be critically evaluated and needed changes must be implemented. This view implies that a critical re-examination and searching appraisal of the organization in each school must be made.

Modern learning theory and modular-flexible scheduling are aimed at individualizing instruction. One of the chief

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[1] J. Lloyd Trump, "Secondary Education Tomorrow," Bulletin of the National Association of Secondary School Principals, XXXIV (April, 1966), 95.

[2] See "And No Bells Ring," 57-minute film on large-group, small group discussion, independent study, and the teacher team. National Association of Secondary School Principals, 1201 - 16th Street, Washington, D. C. (1061).

concerns of educators must be to find workable ways to transfer theory into practice and to devise instruction opportunities appropriate for each individual. In order to do this, present concepts of school organization must be altered. As Manlove and Beggs have stated:

> The traditional method of organizing the secondary school in which one teacher meets five groups of approximately thirty students each day, will not do the job that needs to be done. The requirements of today's schools is to individualize and personalize instruction. Group teaching must give way to individual learning. Educators must stop dreaming about groups or classes and begin thinking of individuals or personalities. Far more emphasis and time in the school day must be given to the individual student then to group instruction.[1]

One question that keeps arising is: How does a senior high school accomplish this goal of focusing on the individual, of individualizing instruction, of making education relevant and meaningful to the individual? The answer given by some authorities is to involve the student in the learning process.

The time has come for schools to consider a better way of teaching, one that is in concert with the best learning practices. Flexible scheduling is recommended as a way of helping most children develop their full capabilities and capacities. A flexible schedule is geared to the bright and the dull student as well as those with

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[1]Manlove and Beggs, op. cit., pp. 19, 20.

average ability. A flexible schedule is an approach to the teaching-learning process which utilizes the teacher's professional judgment and encourages the student to assume the responsibility for his own learning.

For two generations students of education, ranging from the philosopher to the curriculum worker and including advocates of the extreme positions of life adjustment or basic education have known the conventional secondary schedule, regardless of its virtues, is learning nonsense. The need to break out of the straightjacket has been known for a long time. As is often the case in education, however, the difference between knowing what is needed and knowing how to implement change results in pleas to adapt, innovate, and break the old mold; but most schools continue business as usual. In the case of change in the conventional schedule, the engineering job needed between the idea and the act was not accomplished until recently. Perhaps it could never have been realistically accomplished until the computer age. In any case, it has now been effected and field tested in a number of schools.

For years, as thoughtful principals cut strips of colored paper and prepared elaborate boards of color combinations, levels of frustration have increased. Technology that produced ready-made products in the market place did little but relieve some of the tedium. With factory-

prepared "pockets" and "colored slips," the principal, in fact, had more time to worry about his inability to build the kind of schedule that would carry what he knew about the learning process into the reality of the classroom.

Today there are two types of computer programs available for use by schools in building schedules. In using the first type the school must build the master schedule and supply programs requested by the students to be fed into the computer. The second kind of program is represented by the GASP (Generalized Academic Simulation Program), SSSS (Stanford School Scheduling Service) and Indiflex.[1]

The Generalized Academic Simulation Program was developed in the late 1950's and has been used by several schools to date. The Indiflex program is under development at the University of Indiana. The Stanford School Scheduling Service was developed at Stanford University with the special aid of the Ford Foundation. It was first placed in operation on an experimental basis during the 1963-64 school year. The basic difference between the two programs is that schools using the second program do not need to build the master schedule. The master schedule is built, as well as loaded, by the computer. Herein lies the opportunity for the principal to multiply his

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[1]Wiley and Bishop, op. cit., pp. 4-6.

effectiveness many times over the human limitations inherent with the hand-built schedule, which prior to the computer made it nearly impossible to set up a completely effective flexible schedule.

With the advent of the computer age it became possible to implement the new approaches to education advocated by J. Lloyd Trump. In the article, Images of the Future- A New Approach to the Secondary School, Trump outlined the following:

ORGANIZATION OF INSTRUCTION

Teaching-Learning Experiences:

| Large-Group Instruction | Small-Group Discussion |
|---|---|
| introduction<br>motivation<br>explanation<br>group study<br>enrichment<br>generalization<br>evaluation | group examination<br>of terms and concepts and<br>solutions of problems,<br>reach areas of agreement<br>and disagreement<br>improve interpersonal<br>relations |
| Place<br>auditorium, little theater,<br>cafeteria, study hall,<br>classrooms joined by T.V.,<br>other large room | Place<br>conference room<br>classroom |
| About 40 per cent of<br>students time | About 20 per cent of<br>students time |

Individual Study
read
listen to tapes and records
view, question, analyze
think
experiment, examine
investigate, consider
evidence
record
visit
self-appraise

Place
library, laboratories
workshops, projects
materials centers,
museums-inside or outside school plant

About 40 per cent of students time[1]

Ridgewood High School, Norridge, Illinois, is a working model of the Trump Plan. Other schools from the east coast to the west coast have adopted segments of the plan, but Ridgewood was planned, built, and now functions in accordance with the ideas which came from Trump.

To translate these beliefs into action, Ridgewood's master schedule calls for pupils' spending, on the average, thirty-five per cent of their time in large-group instruction, thirty per cent in seminars and laboratories, and thirty-five per cent in individual study. Ridgewood was built with special facilities for the three types of learning. There are ten special study areas in the school.

Ridgewood High School adopted the Trump Plan in 1960. Four years later they were revisited by a team from, School Management, magazine. The major findings of this group were:

1. Biggest problem was scheduling until they went to the computer.
2. Free time allows much freedom for students and teachers to plan.
3. Biggest problem was in small group discussion where it was difficult to let students lead the discussion.

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[1]Robert O. Hahn and David B. Bidna, Secondary Education: Origins and Direction (New York: Macmillian Co., 1965), pp. 348-349.

4. One third independent study time should not be held sacred because some students could not handle it.
5. Slow students can fare well in small groups and independent study if allowed to do so.
6. With team teaching teachers can do what they can do best.
7. Most teachers said they would not go back to a traditional schedule.[1]

In articles written in the recent issues of the major educational journals schools that have adopted a modular-flexible schedule with large group, small group instruction and independent study concepts have reported that although they have encountered some problems they are well satisfied with the results. Vincent Durhman, Principal at Hinnesbury, Vermont stated: "It can work; the results in our school were stepped up learning opportunities and a greater chance to experiment with new innovations."[2]

It is the belief of this writer after a review of the literature concerning modular-flexible scheduling that this method of organizing the school day and utilization of staff and facilities warrants the consideration of all who are interested in improving Secondary School Education.

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[1] "Second Look at Trump," School Management, XIII (October, 1964), 55-60.

[2] Vincent Durhman, "Are You Afraid of Flexible Scheduling?" School Management, XI (May, 1967), 98.

## V. PROCEDURES

The intent of this study was to determine the problems encountered when the Nevada Community High School, Nevada, Iowa, implemented a modular-flexible schedule.

Nevada is a city of approximately five thousand people located eight miles east of Ames and forty miles north of Des Moines. In the past ten years, through reorganization, the Milford, Shipley and Fernald township schools have been added to the school district. Although incorporating a fairly large rural area, only twenty-five per cent of the students are from this portion of the district. There are 1600 students enrolled in k-12. During the 1967-68 school year, when this study was undertaken the average daily attendance was 340 for students enrolled in grades ten through twelve. Twenty-two teachers, a full-time guidance counselor and a librarian are employed. The school has the services of a school nurse and a psychologist from the county office. In the past several years, more than fifty per cent of the high school graduates took some type of training beyond high school. Less than five per cent of the graduates remained on the farm.

The school district has a tax valuation of 16,809,590 dollars. The per-pupil cost for the 1967-68 school year was 550 dollars.

The city of Nevada has been a fairly progressive community. In the last twenty years the community has shown steady growth in population. In 1950 the population was 3,763 people, in 1960, 4,227 and in 1966, 4,840. The results of a 1967 study done in connection with the North Central Association evaluation revealed that the education level of the community would be classified above average. A public library consisting of 10,000 volumes and a community building, which was built four years ago with money left by a former teacher, are available for community use. The facilities of the community building are rented for public use but can be used by the school free of charge. Since the building is located near the high school, it plays a very important part in the educational program. The community building is used for high school assembly programs, plays, music programs, pep assemblys and physical education classes. The high school building was constructed six years ago at a cost of 670,000 dollars. In the past there has been little opposition to bond issues. In 1967, a 400,000 dollar-bond issue for a new wing to the elementary building passed by sixty-six per cent of those voting.

In order to supplement the information gathered at Nevada, visitations were made to nine schools, who, in recent years, implemented similar programs. Using a list of schools obtained from the State Department of Public

Instruction, a survey was made of other schools in Iowa presently using modular-flexible scheduling. A list of schools visited and surveyed is in Appendix A of this study.

Information for this study was gathered through interviews with teachers, students, parents and administrators of the Nevada Community School. In addition to those sources, the writer added his own impressions and ideas to the subject as a result of observations of several schools employing the modular-flexible scheduling approach.

In the following chapter, the procedures followed and the problems encountered in implementing a modular-flexible schedule at the Nevada Community High School will be presented. Also, where it applies, information gathered from other schools will be presented.

# CHAPTER II

## PRESENTATION OF DATA

This chapter is devoted to the presentation and summarization of the data obtained at the Nevada Community High School and other schools visited or surveyed concerning practices followed and problems met in implementing a modular-flexible schedule. The discussion of the material follows a chronological approach from September, 1967, to January, 1969, one semester after modular-flexible scheduling was introduced in the Nevada Community High School.

### I. NEVADA COMMUNITY HIGH SCHOOL BEFORE THE CHANGE

In the past the curriculum of the Nevada Community High School had been determined to a great extent by requirements of the State Department of Public Instruction and the standards of the North Central Association. Citizens of the Nevada school district had never taken part in any type of curriculum planning. In the summer and fall of 1967 a citizen's committee did take part in a building program which led to the addition of a new wing to the elementary building. The Nevada Parent Teachers Association had become very ineffective. In September of 1967, the Parent Teachers Association was disbanded. The

Nevada faculty was seldom consulted about curriculum changes. Most of the changes that had taken place were the result of administrative planning and school board approval. The curriculum included little more than state requirements and a few traditional electives.

In the fall of 1965 a six-period floating schedule was put into operation as the result of recommendations made by the guidance counselor and the high school principal. This plan was approved by the school board but the high school faculty was not involved in the planning or implementation of the program. Under this program students were required to take five subjects and class periods were lengthened to seventy minutes each. The sixth period replaced one of the other periods each day except Friday. As result of this each class period was scheduled four times per week. Only two new courses were added as a result of the adoption of this new schedule. The floating schedule was adopted mainly to abolish the large study halls which had become a very serious problem due to the lack of physical education facilities and the small number of course offerings under the seven period traditional schedule which had been in operation. As a result of the large size of the study halls, they had become very ineffective. Very little in-service training was provided to aid the staff in adjusting to and making the best use of this new schedule.

The in-service training consisted of staff meetings prior to the start of school and two one-hour staff meetings after school had begun.

During the spring and summer of 1967 the floating schedule was reviewed and evaluated by the staff and the new high school principal. It was decided that the schedule offered no more flexibility than the traditional schedule, and also the requirement that all students must take five subjects was not educationally sound.

Upon the recommendations made by the staff and high school principal, the superintendent and school board decided that the floating period schedule should be dropped and return to a seven-period traditional schedule in the fall of 1967.

## II. THE NEED FOR CHANGE

The North Central Association in its formal report to the Nevada Community School District, following its visitation in April of 1967 cited the need for:

1. Additional funds to increase the number of library volumes, periodicals and other instructional materials available to students.
2. A better teaching program to meet the needs of individual students.
3. More attention given to non-college bound students.
4. Eliminating certain courses as "dumping grounds" for the non-achieving and unmotivated students.
5. Better deployment of existing facilities to provide for individual differences among students.
6. Providing for innovative methods of teaching.
7. Audio-visual materials and equipment to be made a part of the library.

8. More released time for teachers to engage in curriculum development.
9. Substantial improvements in the physical plant.
10. A more flexible program to better meet the needs of the individual learner.[1]

Rather than altering some courses or adding an additional period to the school day to alleviate some of the weakness listed above, it was decided that a complete study would be made by the staff and administration to discover what steps should be taken to improve the quality of education at the Nevada Community High School.

## III. STEPS TAKEN IN PREPARATION FOR FLEXIBLE SCHEDULING

During the 1967-68 school year, the high school principal surveyed the literature concerning innovations in learning, including modular-flexible scheduling. Letters of inquiry were sent to a number of schools which were operating with this type of schedule in their respective schools. The high school principal distributed to staff members recent articles concerning learning theory, independent study, team teaching, large and small group instruction and modular-flexible scheduling. Staff members were asked to do research in their own respective areas concerning new methods and innovations. Staff meetings were

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[1] See "North Central Association Evaluation Report to The Nevada Community School," June, 1967.

held every Tuesday after school. At these meetings, discussions were held concerning what could be done to improve instruction in the school. These discussions were led by the principal or by staff members selected by him.

As a result of careful appraisal and discussion of the areas listed in the previous paragraphs, it was decided by the staff and high school principal that modular-flexible scheduling would provide the best vehicle for strengthening the educational program of the Nevada Community High School. It was felt that modular-flexible scheduling would involve the student more in the learning process, allow for individual differences and make it possible to better utilize the staff and plant facilities.

During the fall semester of 1967, the high school principal attended a two-day workshop at the University of Minnesota concerning modular-flexible scheduling. He also attended a one-day meeting at the University of Iowa on the same subject. Staff members from Iowa State University and Drake University were contacted to assist school officials. The school board allocated funds to pay these consultant fees.

It was also found that the general public and the school board would have to be informed concerning the new program. At Nevada the school board members were given materials to read concerning modular-flexible scheduling.

Also a consultant from Iowa State University as well as the high school principal made formal presentations to the school board. Members of the school board participated in visitations to schools with the schedule in operation. Through newsletters, newspaper articles and public meetings, members of the community were informed about the new program. The editor of the local newspaper also participated in visitations so that he might be better informed about modular-flexible scheduling. It was hoped that as a result of the knowledge gained from these visitations he would support, rather than oppose the change.

In January of 1968, a proposal was submitted to the school board asking permission to set up a formal program to implement a modular-flexible schedule for the 1968-69 school year. In February the board agreed to move forward on a modular-flexible scheduling program. The following program was carried out during the second semester of the 1967-68 school year:

1. The school provided released time for staff members to visit various schools that had flexible scheduling programs in operation. Schools visited were the St. Ansgar Community School, Southeast Polk Community School, Mason City Community School and the Lewis Central Community School in Council Bluffs, Iowa.

2. Workshops were held for all high school staff members. Consultants were brought in to assist the staff in crystallizing the many and varied facets concerning the new program. The principal and one staff member attended a workshop on modular-flexible scheduling held by Drake University in Des Moines, Iowa on April 21, 1968.
3. A letter was sent to the parents explaining the program. Articles were also published in the local newspaper explaining the program.
4. Parents and other interested persons were invited to attend meetings at which the specific goals and mechanics of the program were explained.
5. Students were given information in assembly programs by staff members concerning the new program.
6. Staff members and departments were selected that would be involved in the program during the first year. The staff members were asked not told to be in the program.
7. Staff meetings were held in each department that would be in the program to determine time needs. These departments were English, Science, Mathematics and Social Studies.
8. Budget requests were submitted to the school board and are found in Appendix E of this study.

9. During May students were scheduled for the 1968-69 school year.

The preceding statements give a brief outline of the procedures followed during the early stages of implementing an innovative program. Many problems were encountered and proved to be a great challenge to those involved in trying to bring about change. One of the most serious was to create an atmosphere for change and to motivate teachers to seek better ways to individualize instruction. At Nevada this problem was solved by encouraging teachers to seek solutions for themselves. As was stated previously the high school principal provided materials and led discussions both formal and informal on the new program. This led to a number of studies by the staff both individually and by departments concerning curriculum, course content, course objectives and methods of instruction. These studies led to the eventual conclusion that there are better ways to match teaching and learning. The school board also provided released time as well as funds for visitations to innovative schools. This proved to be of great value in helping teachers to see the need for change.

Information gathered in the survey conducted for this study showed that most schools that adopted modular-flexible scheduling followed somewhat the same procedure as outlined previously in working with their staffs. The

time taken for preparation varied from one semester at the St. Ansgar Community School and the Lewis Central Community School to three years at the Mason City Community School. The Green Bay, Wisconsin, and Hopkins, Minnesota, schools were two of several schools that received federal grants to implement innovative programs. Information on their approaches can be obtained by writing to the respective schools. Sources of information for teachers are found in the bibliography of this study.

It was found at Nevada and other schools that implemented innovative change, that the students were the most willing to accept the new program. With the student body it was not a matter of selling the program but rather one of informing them of what they could expect when the program was adopted. Assembly programs were held and staff members were asked to discuss different aspects of the program with individuals students. A committee composed of six student council members, two teachers, and the high school principal revised the student handbook adding necessary provisions for modular-flexible scheduling. During April and May of 1968, pre-registration was held for the 1968-69 school year. This was necessary so that information forwarded to the Access Data Processing Center in Des Moines could be used in developing the master schedule. During the preliminary stages of implementing the new program, the guidance

counselor was kept informed and took an active part in all phases so that he would be in a better position to help students make the best possible course selections for the coming year. He participated in many of the visitations to innovative schools and also worked closely with the principal in determining course offerings and staff utilization. At Nevada there was no program for informing the in-coming sophomore class of the different aspects of the new program. This did cause some problems. Recommendations concerning this will be given in Chapter III in this study.

During the summer of 1968 final steps were taken to prepare for implementation of the program for the 1968-69 school year. As a result of the research conducted and schools visited, it was the mutual feeling of the administration and school board that the teachers who would be directly involved in all aspects of the modular-flexible scheduling program would need time during the summer to revise their own specific courses of study to best utilize the advantages and learning opportunities available with large group-small group instruction and independent study. For this reason ten teachers were given ten-day extended contracts and paid at the same rate as during the regular school year. These extra days could be used anytime during the summer but five days had to be spent with the other

members of their respective departments. This supplementary contract had to be fulfilled by August 23, 1968. Very few of the schools surveyed and visited provided extended contracts for their teachers. It is the belief of this writer, after interviews with the high school principal and staff members at Nevada, as well as personal experience in the program, that extended contracts are an absolute necessity during the implementation period of adopting a modular-flexible schedule.

The high school building at Nevada is six years old and as a result very few changes were required when modular-flexible scheduling was employed. A drawing of the building is included in Appendix D of this study. A small auditorium which seats 135 students is used for large-group instruction. With the addition of lap-boards and a public address system, this area is adequate for this type of instruction. The multi-purpose room was divided into an independent study and commons area. This was done by dividing the room into three areas using ten-foot high petitions. Study tables and carrels were placed in the independent study center. Vending machines were installed in the commons.

The library was made more functional by adding three hundred new books and periodicals and was transformed into an Instructional Materials Center. Other types of instructional materials including single concept films, filmstrips,

records and tapes were also purchased. These materials were selected by the teachers and the librarian. This area serves essentially the same purpose as a resource center and has the added advantage of serving all departments in the school. The Instructional Materials Center includes:

1. All of the audio-visual materials with the exception of the sixteen millimeter film projectors. Because of lack of space in the Instructional Materials Center these are stored in the Principal's office.
2. Study carrels for viewing filmstrips, programmed learning materials and other types of individual study materials.
3. Record players with phone jacks for individual use.
4. Filmstrips and records that are available to students and to teachers.
5. A vertical file with pamphlets and recent materials available to students.
6. Eight millimeter and single concept films available for student and teacher use.

During the summer of 1968, study carrels were installed, books and bookcases were moved and storage facilities were built in this area.

It is the belief of this writer that plant facilities should provide no serious road block for many schools considering modular-flexible scheduling. However, there are school districts which have buildings that would not be suitable for this type of program and because of the high cost involved in remodeling would find it impossible to adopt a modular-flexible scheduling program of the type described. New buildings should be planned with the new teaching concepts in mind, but many older buildings can be remodeled and made suitable for new types of instruction. Mason City High School was built for flexible scheduling but the St. Ansgar and the Lewis Central schools in Iowa are examples of schools using older traditional buildings with modular-flexible scheduling.

During the summer months, the personnel at the central office of the Nevada Community School placed orders for all new audio-visual and teaching materials recommended by the staff and approved by the administration during the spring semester of the 1967-68 school year. These materials included filmstrips, transparencies, records, and eight millimeter films. The budget for these materials is found in Appendix E.

As a result of the complexity of scheduling students and teachers in a modular-flexible schedule, it is necessary that schools have access to a computer. For schools

that wish to adopt a full scale modular-flexible schedule the Stanford School Scheduling Service is available. The University of Iowa has a similar system, although not as sophisticated. Schools in the Des Moines area can utilize the scheduling services of the Access Data Processing Center in the Polk County Superintendent's office. By utilizing the scheduling service of Stanford University or the University of Iowa it is possible for a school to acquire a high degree of flexibility in scheduling staff, students and building space. All this is quite complex even with the S4 computer and is also quite expensive. The cost of the Stanford program is 1250 dollars plus five dollars per student over two hundred enrollment. The cost for this service at Nevada were it used would be 1750 dollars per year. The cost at the University of Iowa is almost as high.

After careful study by the high school principal, it was decided that Nevada would use the scheduling service provided by the Access Data Processing Center in Des Moines. It was felt that for the type of program needed, this would be adequate. The cost is two dollars per student which amounted to a total cost of seven hundred dollars. Scheduling procedures followed are shown below:

| Principal and Staff | Access |
|---|---|
| 1. Help students complete master coding sheets | 1. Print a list of students for approval |
| 2. Prepare a course code sheet | 2. Check the sheet and approve |
| 3. Assign teacher identification numbers | 3. Print-out list of teachers and approve its use |
| 4. Help students complete course code sheets | 4. Print a list showing each student's request and return to school, also prepare a tally of all courses offered |
| 5. List courses of two or less sections | 5. Print potential conflict matrix |
| 6. Make master schedule on special form | 6. Check master schedule |
| 7. No function | 7. Process courses in master schedule and students' requests. Obtain number of students successfully scheduled and the names and reasons for conflicts in students' requests and master schedules |
| 8. Study conflicts and revise students' requests and/or master schedule | 8. Re-run step 7 |
| 9. No function | 9. Print five copies of student schedules and two copies of class list for teachers |
| 10. After school opens teachers make corrections, deletions, and additions on class list | 10. Print corrected copies |

The preceding is a simplified outline of the computer service available through Access Data Processing Center. Detailed information concerning the service can be obtained from the center. Staff members from the computer center will come to individual schools and assist in setting up programs. It should be noted that the cost of the service will be increased for the 1969-70 school year because of the loss of federal funds. Specific recommendations will be given concerning scheduling in Chapter III of this study.

In surveying and visiting schools in connection with this study it was found that while most schools use the services of computer centers a few did schedule by hand. Among these were the Virgin Valley High School in Mesquite, Nevada, and the St. Ansgar School in Iowa. The primary reason given was that hand scheduling would result in financial savings for the school.

Computer scheduling does result in a saving of time for staff members and clerical help responsible for scheduling students. It does require an added expenditure of funds for the school district and students are required to spend extra time filling out the necessary forms for the computer center. Extra help is also necessary in the guidance center to fill out computer cards and other schedule forms.

# IV. NEVADA SCHEDULE IN OPERATION

By the end of August, 1968 all teachers on extended contracts had fulfilled this obligation and most new materials had arrived. Teachers who had extended contracts had spent this time preparing courses of study and teaching units. Teachers in the English, Social Studies and Mathematics departments had spent time in team planning for large and small group instruction. The librarian had been given an extended contract to prepare the Instructional Materials Center for use. New materials had been cataloged and a list of these materials had been prepared for teacher and student use. Special equipment such as projectors, record players, tapes and tape recorders had been placed in proper areas in the Center. The new clerical assistant had been trained and was prepared to work with teachers and students in using the Instructional Materials Center. With the exception of the installation of the public address system in the large-group instruction center, all of the necessary physical changes previously listed had been made to the building. This was installed and ready for operation by the end of September, 1968.

A weekly schedule based on twenty-one modules per day of twenty minutes each was established. Each teacher requested the amount of time per week he desired for each

class and also how much time per day each class would meet. In most cases it was possible to fulfill their requests, but because of scheduling conflicts, some revisions had to be made in the Science, Social Studies and English departments.

Large and small instruction groups were established in Science, Mathematics, Social Studies and English. This made it possible to do team teaching in large-group sessions and permitted some ability grouping in small-group instruction. Large group instruction varied from 60 to 125 students. These large groups were divided into small groups of approximately eight to fifteen students. The large groups met two, three or five times per week. The large-group instruction is teacher-centered and included lectures, films and/or demonstrations. In the small groups students discussed lectures, worked on independent study projects or received special help. Courses other than Science, Mathematics, Social Studies and English were taught on a regular sixty-minute traditional schedule. It was felt that some courses do not lend themselves as well to modular-flexible scheduling. Shorthand and typing seem to be best taught in regular periods of intensive practice. This can best be accomplished by scheduling classes daily for sixty-minute periods. The classes in French were too small to warrant large group instruction and were scheduled to meet every day for forty minutes.

During the school day both students and teachers have "mods" when nothing is scheduled. For students this is called Student Responsibility Time. During this part of the day they are free to decide for themselves what they will do and where they will be. They can go to the Commons Area, to the Instructional Materials Center, Independent Study Center or to a teacher's room for individual help. The above areas are shown on the drawing in Appendix D. When not scheduled teachers have open and closed time. During open time teachers are expected to be in their rooms or offices to give individual help to students desiring it and also to work with students involved in independent study projects. During closed time teachers may go to the faculty lounge or any area of the building they desire. This is free time and they may use their own discretion in using it. Copies of teachers' schedules are posted throughout the building so students can find out if specific teachers are available for individual help. Copies of the master schedule, students' schedules and teachers' schedules are found in Appendices F, G and H of this study.

Since classes do not meet and dismiss at the same time there are students in the halls at the end of each twenty-minute period. The ringing of bells every twenty minutes would cause unnecessary distractions so the bell

system was turned off. The Hopkins, Minnesota school uses the hall lights to signal the end of the period. At Nevada clocks were installed in all rooms and other areas of the school. Teachers dismiss students at the end of each class period. Once students became accustomed to not having bells and teachers to having students in the halls this presented no real problem. In the Southeast Polk Community School and the Lewis Central Community School, student council members are used as hall monitors. In most schools, including Nevada, students are not allowed in the halls except at the end of a "mod."

Parents, teachers and school administrators in schools that have adopted a modular-flexible schedule expressed concern about student behavior during their unstructured time. At Nevada very few serious behavior problems resulted because of the unstructured time. Schools in Mason City, Iowa and Hopkins, Minnesota reported vandalism, smoking and other serious disciplinary problems.

There is some concern expressed by teachers and parents that high school students are not mature enough to assume the responsibility for proper use of their unstructured time. A solution to this problem being used at Nevada is that a student can lose his Student Responsibility Time. This may be recommended by any teacher or the principal for discipline or low grades. Students are then scheduled into

study halls during the time they do not have classes. Teachers in whose classes the students are having difficulty are asked to schedule the students into their rooms or offices for individual help. At the end of two weeks the student may apply to have his Student Responsibility Time returned. The application must be approved by three teachers, the principal and the student council. This has not solved the problem completely but improvement has been noted. Some specific recommendations concerning this problem will be made in Chapter III of this study.

In the past it was felt by some people that you could judge how good a school was by how quiet the building and the classrooms were and how fast the principal could locate teachers and students if the need arose. Because many people still feel this way, they tend to be critical of schools that adopt modular-flexible schedules. The school is not always quiet because every twenty minutes students may be moving from area to area. Students are talking and making noise in the Commons Area and students do make some noise when they study together.

In order to better inform the public and explain the new program every parent in the Nevada Community School district was invited to visit the high school. Each Wednesday was parent day and groups of twenty-four parents were asked to visit. During the visits by each group of

parents the principal gave a brief explanation of the new program and student council members acted as guides on a tour of the building. The parents were then allowed to visit classes and at the end of their visits, if they so desired, they could discuss the program with the principal or any member of the staff.

In Chapter III summary, conclusions and recommendations concerning the implementation phase of modular-flexible scheduling will be given. Specific recommendations concerning aspects of implementations will be given and recommendations for future changes will be made.

# CHAPTER III

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to explore the problems encountered and the procedures followed when the Nevada Community High School, Nevada, Iowa, changed from a traditional approach to scheduling, to a modular-flexible approach to scheduling. In order to supplement the information gathered at Nevada, visitations were made to eight schools employing similar programs. Using a list of schools obtained from the State Department of Public Instruction, a written survey was made of forty-five schools in Iowa who were using a form of modular-flexible schedule.

## I. SUMMARY

Prior to the implementation of a modular-flexible schedule, the curriculum at Nevada Community High School had been determined to a great extent by state requirements and the standards of the North Central Association. Decisions concerning course offerings and scheduling were made by the high school principal, superintendent and the school board.

In September of 1965, a six-period floating schedule was established. During the spring and summer of 1967, the floating schedule was reviewed and evaluated by the staff

and the new high school principal. It was decided that the schedule offered no more flexibility than the traditional one. As a result of recommendations made by the staff and the high school principal, it was decided by the superintendent and school board that the floating period schedule would be dropped and a seven-period traditional schedule was again adopted in the fall of 1967.

The North Central Association in its report to the Nevada Community School District, following its visitation in April, 1967 cited the need for a number of changes in curriculum, instructional methods and the addition of library volumes and instructional materials. As a result of this report, it was decided that a study would be made by the staff and administration to discover what steps should be taken to improve the quality of education at the Nevada Community High School.

During the fall semester of the 1967-68 school year, the high school principal surveyed the literature concerning innovative programs in secondary education. Letters of inquiry were sent to schools involved in innovative programs. Recent articles concerning learning theory, independent study, team teaching, large and small group instruction and modular-flexible scheduling were distributed to the staff. As a result of careful appraisal and discussion it was decided by the staff and the high school principal

that modular-flexible scheduling would provide the best vehicle for strengthening the educational program of the Nevada Community High School.

During the fall semester of the 1967-68 school year, the high school principal attended workshops concerning modular-flexible scheduling at the University of Iowa and the University of Minnesota. The school board provided funds to hire consultants from Iowa State University and Drake University to assist school officials. Materials concerning modular-flexible scheduling were distributed to board members. School board members and the high school principal made visitations to schools which had implemented modular-flexible scheduling. Through newsletters, newspapers articles, and public meetings, members of the community were informed about the major concepts of modular-flexible scheduling.

In January of 1968, a proposal was submitted to the school board asking permission to set up a formal program to implement a modular-flexible schedule for the 1968-69 school year. In February, the board agreed to move forward on a modular-flexible scheduling program. The following program was carried out during the second semester of the 1967-68 school year.

1. Staff members were given released time to visit the St. Ansgar Community School, Southeast Polk

Community School, Mason City Community School and the Lewis Central Community School in Council Bluffs.

2. Consultants conducted workshops for all staff members. On April 21, 1968, the high school principal and one staff member attended a workshop on modular-flexible scheduling conducted by Drake University.
3. Parents were informed about the new program by means of public meetings, newsletters and articles in the local newspaper.
4. In assembly programs and class meetings students were informed about the new program.
5. Staff members and departments were selected which would be involved in the program during the first year.
6. Department meetings were held in the English, Science, Mathematics and Social Studies to determine time needs for the 1968-69 school year.
7. During May budget request were submitted to the school board and students were scheduled for the 1968-69 school year.

Schools surveyed reported using programs similar to that outlined previously in preparation for modular-flexible scheduling. Time taken for preparation varied from one semester at the St. Ansgar school to three years at Mason City.

Teacher and parent apathy was the greatest problem encountered in schools which implemented a modular-flexible schedule. It was found that students were willing to accept the new program. The problem of teacher and parent apathy was solved by involving the staff in visitations to schools using innovative programs and encouraging studies concerning curriculum, course content and methods of instruction. Parents seemed more willing to accept change after they were informed.

During the summer of 1968 final steps were taken to prepare for implementation of the program for the 1968-69 school year. Ten teachers were given ten-day extended contracts and paid at the same rate as during the school year. This time was used to revise courses of study to best utilize the advantages and learning opportunities available with modular-flexible scheduling. Only twenty-five per cent of the schools surveyed reported giving teachers extended contracts to prepare for modular-flexible scheduling. Changes and additions were made to the building to make it suitable for modular-flexible scheduling. Lap boards and a public address system were added to the large group instruction center. The multi-purpose room was divided into an independent study center and commons area. These areas are shown in Appendix D of this study. The library was made more functional by adding three hundred new books and

periodicals and was transformed into an Instructional Materials Center. Other types of instructional materials including single concept films, filmstrips, records and tapes were also purchased. These materials were selected by the teachers and the librarian.

As a result of the complexity of scheduling students and teachers in a modular-flexible schedule, it is necessary that schools have access to a computer. Of the fifty schools surveyed in connection with this study, only two reported scheduling by hand. The use of computer scheduling does result in an added expense which must be paid by the school district. The Nevada Community School used the scheduling services available at the Access Data Processing Center in Des Moines, Iowa. The cost for this service for the 1968-69 school year was seven hundred dollars.

In September o f 1968, a modular-flexible schedule was implemented in the Nevada Community High School. A weekly schedule based on twenty-one modules per day of twenty minutes each was established. Large and small instruction groups were established in Science, Mathematics, Social Studies and English. Courses other than Science, Mathematics, Social Studies and English were taught on a regular sixty-minute traditional schedule. During the school day both students and teachers have "mods" when nothing is scheduled. For students this is called Student

Responsibility Time. During this part of the day they are free to decide for themselves what they will do and where they will be. When not scheduled teachers have open and closed time. During open time teachers are expected to be in their rooms to assist students. Closed time is free time and teachers may use it at their own discretion. Copies of the master schedule, teachers' schedules, and students' schedules are found in Appendices F, G and H of this study.

Since classes do not meet and dismiss at the same time there are students in the halls at the end of each twenty-minute module. In schools with modular-flexible scheduling the bell system is not used. At Nevada there was some concern expressed by teachers that students would find it difficult to be on time for classes and that students passing every twenty minutes would distract classes in session. Clocks were installed in all areas of the school. Students are dismissed from class by the teacher. Once students became accustomed to not having bells and teachers to having students in the halls this presented no real problem.

Parents, teachers and school administrators expressed concern about student behavior during unstructured time. Schools in Mason City and Hopkins, Minnesota reported vandalism, smoking and other serious disciplinary problems.

At Nevada very few serious behavior problems resulted because of unstructured time.

There is some concern expressed by teachers and parents that high school students are not mature enough to assume the responsibility for proper use of their unstructured time. Students in the Nevada Community High School who have proven by their actions that they cannot utilize unstructured time properly are scheduled into directed study halls during the "mods" when they don't have scheduled classes. In order to better inform the parents of the district about the different aspects of the program including unstructured time a parent visitation program was conducted in the Nevada Community High School.

## II. CONCLUSIONS

Based upon the findings of this study, which investigated the problems encountered and practices followed when implementing a modular-flexible schedule, the following conclusions are presented:

1. Both the North Central Association and the State Department of Instruction are encouraging innovative programs. Schools will not lose accreditation because they employ modular-flexible scheduling.
2. Modular-flexible scheduling is not a panecea for all the ills of secondary education.

3. The high school principal must be committed to the change and must provide the leadership to bring about the change.
4. If staff members are not committed to this type of change it is best not to try to implement it.
5. The school board and the general public must be provided with information concerning modular-flexible scheduling.
6. Extra costs are encountered when implementing modular-flexible scheduling. The amount will vary depending on facilities and equipment available prior to the change.
7. Because of lack of plant facilities, some schools will find it impossible to adopt the type of program described in this study.
8. Staff members should be given extended contracts to revise course materials if they are to make the best use of modular-flexible scheduling.
9. In order to do an adequate job of scheduling, schools must use the services of a computer center.
10. Social Studies, Science, Mathematics and English can best utilize large group and small group instruction.
11. If the Junior High School does not have modular-flexible scheduling, then there should be a program

to inform students coming into high school about the different aspects of this program.

12. Unstructured time is the area of greatest concern in schools that have adopted modular-flexible scheduling. Schools should develop programs to help students learn to use this time.
13. Evaluation and appraisal must be a part of all aspects of implementing modular-flexible scheduling.

Modular-flexible scheduling alone will not change the quality of education. It is merely a vehicle which makes it possible to provide the necessary flexibility in school schedule to implement innovative programs such as independent study, team teaching, large and small group instruction.

## IV. RECOMMENDATIONS

Future studies should be conducted to seek answers to the following questions:

1. Does modular-flexible scheduling change student attitude towards school?
2. What might teachers do to help students make the best use of unstructured time?
3. Does modular-flexible scheduling affect student achievement?

4. How does modular-flexible scheduling affect student discipline?
5. Does modular-flexible scheduling better prepare students for life after high school?

The following are recommended changes for the program now being employed in the Nevada Community High School:

1. More in-service training to help teachers better utilize small group instruction.
2. Continued study in the area of team teaching.
3. Classrooms should be remodeled to provide small group areas and office space for teaching teams.
4. Resource centers should be established in the Science, English, Social Studies and Mathematics Departments.
5. Changes should be made in scheduling to provide greater flexibility on a week-to-week basis.
6. The Commons area should be moved away from the Independent Study Center.
7. Programs should be started to implement the continuous progress approach to certain classes.
8. A pass-fail grading system should be implemented in elective courses. This would encourage students to take more courses and thereby make better use of their unstructured time.

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"And No Bells Ring," 57-minute film on large-group, small-group discussion, independent study, and the teacher team. National Association of Secondary School Principals, 1201 16th Street, Washington, D. C.

# APPENDICES

# APPENDIX A

The following is a list of schools surveyed in connection with this study:

1. Lohrville Community, Lohrville, Iowa
2. South Clay Community, Gillett Grove, Iowa
3. Yale-Jamaica-Bagley Community, Bagley, Iowa
4. Deep River-Millersburg Community, Millersburg, Iowa
5. East Monona Community, Moorhead, Iowa
6. Grand Valley Community, Kellerton, Iowa
7. Orient-Macksburg Community, Orient, Iowa
8. Everly Community, Everly, Iowa
9. West Burlington Community, Burlington, Iowa
10. Sheffield-Chapin Community, Sheffield, Iowa
11. Fremont Mills Community, Tabor, Iowa
12. East Greene Community, Grand Junction, Iowa
13. Lynnville-Sully Community, Sully, Iowa
14. L.D.F. Community, LeGrand, Iowa
15. Villisca Community, Villisca, Iowa
16. Ogden Community, Ogden, Iowa
17. Nora Springs-Rock Falls Community, Nora Springs, Iowa
18. Alden Community School, Alden, Iowa
19. Waco Community, Wayland, Iowa
20. Red Oak Community, Red Oak, Iowa
21. Solon Community, Solon, Iowa
22. Interstate 35 Community, New Virginia, Iowa
23. Woodbury Central Community, Moville, Iowa
24. Tipton Community, Tipton, Iowa
25. M.F.L. Community, Monona, Iowa
26. Camanche Community, Comanche, Iowa
27. Garner-Hayfield Community, Garner, Iowa
28. Mt. Vernon Community, Mt. Vernon, Iowa
29. West Liberty Community, West Liberty, Iowa
30. West Sioux Community, Hawarden, Iowa
31. Ballard Community, Huxley, Iowa
32. Shenandoah Community, Shenandoah, Iowa
33. Eagle Grove Community, Eagle Grove, Iowa
34. Cherokee Community, Cherokee, Iowa
35. Perry Community, Perry, Iowa
36. Cedar Falls Community, Cedar Falls, Iowa
37. Bettendorf Community, Bettendorf, Iowa
38. Dubuque Community, Dubuque, Iowa
39. West Branch Community, West Branch, Iowa
40. Lewis Central Community, Council Bluffs, Iowa
41. St. Ansgar Community, St. Ansgar, Iowa
42. Starmont Community, Strawberry Point, Iowa
43. Southeast Polk Community, Altoona, Iowa
44. Mason City Community, Mason City, Iowa
45. Brody Junior High School, Des Moines, Iowa

Schools surveyed outside the state:

1. Munster Community School, Munster, Indiana
2. Green Bay Community School, Green Bay, Wisconsin
3. Hopkins Community School, Hopkins, Minnesota
4. Virgin Valley High School, Mesquite, Nevada
5. White Bear Lake High School, White Bear Lake, Minnesota

Schools visited:

1. Southeast Polk Community, Altoona, Iowa
2. Lewis Central Community, Council Bluffs, Iowa
3. Brody Junior High School, Des Moines, Iowa
4. Mason City Community School, Mason City, Iowa
5. Ballard Community, Huxley, Iowa
6. Eagle Grove Community, Eagle Grove, Iowa

1. White Bear Lake Community, White Bear Lake, Minnesota
2. Munster Community, Munster, Indiana

APPENDIX B

520 7th Street
Nevada, Iowa 50201
February 10, 1969

Dear Sir:

As a partial fulfillment of the requirements for a Master's Degree at Drake University, I am conducting a survey to find what procedures were followed and what problems were encountered in implementing a modular-flexible schedule in a traditional high school.

It is hoped that through this survey and the report that will be written from it, administrators and others interested in Secondary School Education will be able to obtain information concerning the actual steps taken and problems encountered by schools whom have undertaken this change.

It is vital that a good response be obtained from those to whom this questionnaire is sent. I would appreciate your filling in the response and returning the questionnaire in the enclosed self-addressed envelope. Thank you.

Sincerely yours,

Dale Dean Ball

## APPENDIX C

Would you please answer the following questions as briefly as possible.

1. When did you first consider a change to a modular-flexible schedule and what factors motivated your decision?

2. Would you briefly list the steps taken in the year prior to the change to flexible scheduling?

3. In what type of in-service training were teachers involved to prepare them for the change?

4. What steps did you take to inform the school board and patrons of your district concerning the change to be made?

5. Were teachers given an extended contract to prepare for the change?

6. What were the most serious problems you encountered and what solutions did you find for these problems?

7. After being on the schedule for a time what is your general appraisal of the program?

8. If copies are available please send any of the following methods that were used for evaluation of changes in student attitudes and behavior after implementing flexible scheduling:

   A. Pupil and teacher questionnaires.

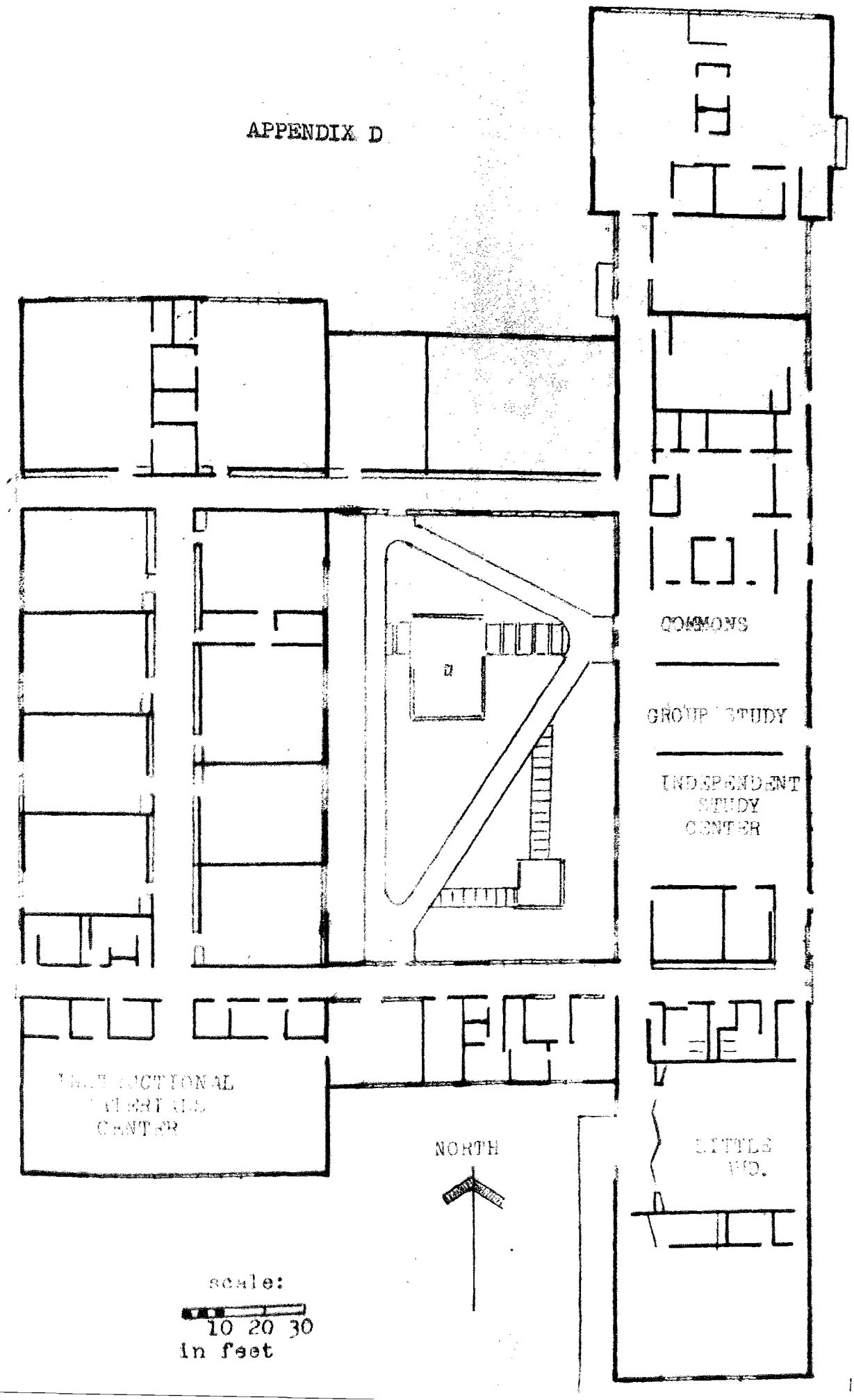
   B. Instruments devised to measure pupil and teacher attitudes.

   C. Structured interviews for pupils, teachers, and administrators.

   D. Surveys of equipment and materials utilization in the resource centers by students.

   E. Results of a comparison of academic achievement.

APPENDIX D


COMMONS
GROUP STUDY
INDEPENDENT
STUDY
CENTER
NORTH
scale:
10 20 30
in feet

# APPENDIX E

## DETAILED DESCRIPTION OF THE BUDGET FOR THE 1968-69 SCHOOL YEAR

1. New Equipment-------This classification includes new audio-visual equipment and individual student study carrels for the new program.

   a. Audio-Visual Equipment:

      Four filmstrip viewers - 17.95 each
      One viewflex previewer - 59.50
      Two all transistor stereo listening system record player with four outlets and four standard phone jacks with headsets - 100.30
      One 8mm "instant movie" single concept silent projector - 94.50
      One projection screen-desk top - 16.95
      One filmstrip cabinet - 46.80

   b. Forty Individual Student Study Carrels - 80.00

2. Books and Periodicals----

   a. Books----$2,000

   b. Periodicals----$500.00

   c. Pamphlets and Current Materials----$100.00

3. Library Supplies----$200.00

4. Audio-Visual Materials----
   Includes filmstrips, records, 8mm films, tapes, transparencies and study prints programmed materials, and film rental----3500

5. Research and Development----
   This is a new budget item. Funds previously used for this purpose have come from other budget classifications. These funds will be used for:

a. Participating in in-service education programs for teachers such workshops, seminars, and the like.

b. Bringing in outside consultants and resource people to conduct action research, surveys, and to provide the expertise necessary for the continuous improvement of our educational program.

c. Taking advantage of opportunities to hear presentations by recognized scholars and authorities.

d. Attending state and national conventions.

e. Attending formally organized workshops, seminars, or discussion groups at nearby colleges and universities ----$3000.00

6. Alterations to Building----
Some alterations to several classrooms will be necessary to provide small group instruction space and office facilities for teachers involved in the new program---- $3000.00

7. Full-Time Clerical Assistant----
A full-time library assistant has been hired to help run the Instructional Materials Center. Teachers and students will have the help of an adult with their reference work, audio-visual materials, library research, and choice of fiction books. The assistant will also do clerical work, thus freeing the librarian for more important tasks.

Some of the clerical duties will include:

1. Typing book orders.
2. Processing books for circulation.
3. Making catalog cards for books and audio-visual materials.
4. Correspondence in regard to many problems and requests.
5. Preparing audio-visual materials for circulation.
6. Helping with vertical file and picture file.
7. Helping with notices for overdue books.
8. Helping with annotated bibliographies for classes.
9. Shelving books.
10. Help students with bulletin boards.
11. Filing catalog cards----$4000.00

8. Extended Contracts----
Those teachers involved in changing our curriculum through the individualization of instruction will need to work two weeks during the summer retooling for the new program ----$4000.00

# APPENDIX F - PART A

| Time | Every Day -2 Mods | Every Day - 3 Mods | M-W-F 3 Mods | T-Thurs 3 Mods |
|---|---|---|---|---|
| 8:30-8:50 | Band | Salesmanship - Merchandising | "A" | "B" |
| 8:50-9:10 | French I | Shop 12<br>Home Ec. 10 | Boys PE | Girls PE |
| 9:10-9:30 | | Office Problems | Health | Ed.-(F) |
| 9:30-9:50 | | Home Ec. 12<br>Business English | "A" | "B" |
| 9:50-10:10 | French III | Office Practice | Boys PE | Girls PE |
| 10:10-10:30 | | | Health | Ed.(F) |
| 10:30-10:50 | French II | Shop 10<br>Typing I | "A" | "B" |
| 10:50-11:10 | Wor.Geog. | Home Ec. 10 | Boys PE | Girls PE |
| 11:10-11:30 | | | Health | Ed.(F) |
| 11:30-11:50 | Speech<br>Journalism | Clerical Practice<br>Individual Problems | | |
| 11:50-12:10 | | Home Ec. 11 | | |
| 12:10-12:30 | | | | |
| 12:30-12:50 | | Art I | "A" | "B" |
| 12:50-1:10 | French I | Typing I<br>Bookkeeping<br>Shop 11<br>Chorus- M-W-F<br>Girls' Glee -Thurs.<br>Boys' Glee -Tues. | Girls PE | Boys PE |
| 1:10-1:30 | | | Health | E. (F) |
| 1:30-1:50 | | Art II<br>Typing I<br>Shop 10<br>Senior Mathematics<br>Business Law | "A"<br>Girls' PE | "B"<br>Boys PE |
| 1:50-2:10 | | | | |
| 2:10-2:30 | French II | | Health | Ed. (F) |
| 2:30-2:50 | | Bookkeeping Shorthand I<br>Art I<br>Home Ec. 12<br>Physical Science<br>Shop 12 | "A"<br>Girls' PE | "B"<br>Boys PE |
| 2:50-3:10 | French I | | | |
| 3:10-3:30 | | | Health | Ed. (F |

# APPENDIX F - PART B

| od | Mon-Wed | | Mon-Wed-Fri | | Tues-Thurs | | Tues-Thurs-Fri | | Every Day | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | S.G. US-Hist Wo-Hist | | S.G. Phy-sics | S.G. Eng. 11 Eng. 12 | | | S.G. Biol. | S.G. Eng. 10 Eng. 12 | S.G. Alg. II | S.G. App. Math. |
| 2 | | S.G. Govt. | | | | | | | | |
| 3 | L.G. Alg.II | | | S.G. Eng.10 | | S.G. US-Hist Wo-Hist | | S.G. Eng. 11 | S.G. Geom | |
| 4 | | | | | | | S.G. Chem. | | | |
| 5 | L.G. Biol. | S.G. US-Hist | | S.G. Eng. 11 | L.G. Eng.10 | | | S.G. Econ. | S.G. Alg. II | |
| 6 | | | | | | | | | | |
| 7 | L.G. Eng. 12 | S.G. Govt. Wo.Hist | S.G. Biol. | | L.G. Govt. | | | S.G. Eng. 10 Eng. 11 | S.G. Geom | S.G. Alg. II |
| 8 | | | | | | | | | | |
| 9 | | | | S.G. Econ. | | S.G. US-Hist Wo.-Hist | | S.G. Eng. 12 | | T - F L.G. Geom. |
| 10 | L.G. World Hist. | | S.G. Phy-sics | | L.G. Phy-sics | | S.G. Biol. | | | |
| 11 | | | | | | S.G Govt | | | | |
| 12 | | | | | | S.G. | | S.G. Eng. 10 Eng. 11 | S.G. Geom | |
| 13 | | | S.G. Biol. | | | US-Hist Wo-Hist | S.G. Chem. | | | S.G. Alg. II |
| 14 | S.G. U.S. Hist. | | | S.G. Econ. Eng.10 Eng. 11 | | S.G. Govt. | | S.G. Eng. 12 | | |
| 15 | | | | | | | | | | |
| 16 | L.G. Eng.11 | S.G. Wo.Hist | S.G. Phy-sics | S.G. Econ. | L.G. US-Hist | | S.G. Biol. | S.G. Eng. 10 Eng. 12 | S.G. Geom | |
| 17 | | | | | | | | | | T - F L.G App Math |
| 18 | | S.G. US-Hist | | S.G. Eng. 10 Eng. 12 | | S.G. Wo. Hist | | S.G. Econ. Eng. 11 | | |
| 19 | | | | | | | S.G. Chem. | | | |
| 20 | L.G. Chem. | S.G. Govt. Wo-Hist | | S.G. Eng. 11 | L.G. Econ. | S.G. US-Hist | | S.G. Eng. 10 Eng. 12 | S.G App. Math. | |
| 21 | | | | | | | | | | |

APPENDIX G - PART I

Name: Teacher - Large-small Group Grade: 12th

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 0 | 8:20-8:27 | Homeroom | Open | Open | Open | Open |
| 1 | 8:30-8:50 | Open | Open | Open | Open | Open |
| 2 | 8:50-9:10 | Independent | Study Center | Supervision | (Daily) | |
| 3 | 9:10-9:30 | Small G Government | Closed | Small G Government | Closed | Closed |
| 4 | 9:30-9:50 | Small G Government | Open | Small G Government | Open | Closed |
| 5 | 9:50-10:10 | Closed | Small G Economics | Closed | Small G Economics | Small G Economics |
| 6 | 10:10-10:30 | Open | Small G Economics | Open | Small G Economics | Small G Economics |
| 7 | 10:30-10:50 | Small G Government | Large G Government | Small G Government | Large G Government | Open |
| 8 | 10:50-11:10 | Small G Government | Large G Government | Small G Government | Large G Government | Open |
| 9 | 11:10-11:30 | Small G Economics | Closed | Small G Economics | Closed | Small G Economics |
| 10 | 11:30-11:50 | Small G Economics | Open | Small G Economics | Open | Small G Economics |

APPENDIX G - PART I (continued)

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 11 | 11:50-12:10 | Open | Small G Government | Open | Small G Government | Lunch |
| 12 | 12:10-12:30 | Lunch | Small G Government | Lunch | Small G Government | Closed |
| 13 | 12:30-12:50 | Closed | Lunch | Closed | Lunch | Open |
| 14 | 12:50-1:10 | Small G Economics | Open | Small G Economics | Open | Small G Economics |
| 15 | 1:10-1:30 | Small G Economics | Open | S mall G Economics | Open | Small G Economics |
| 16 | 1:30-1:50 | Small G Economics | Monitor L. Hist. | Small G Economics | Monitor L. Hist. | Small G Economics |
| 17 | 1:50-2:10 | Small G Economics | Monitor L. Hist. | Small G Economics | Monitor L. Hist. | Small G Economics |
| 18 | 2:10-2:30 | Open | Small G Economics | Open | S mall G Economics | Small G Economics |
| 19 | 2:30-2:50 | Closed | Small G Economics | Closed | Small G Economics | Small G Economics |
| 20 | 2:50-3:10 | Small G Government | Large G Economics | Small G Government | Large G Economics | Open |
| 21 | 3:10-3:30 | Small G Government | Large G Economics | Small G Government | Large G Economics | Closed |

APPENDIX G - PART II

Name: Teacher - Traditional Schedule Grade: 11th and 12th

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 0 | 8:20-8:27 | Homeroom | Open | Open | Open | Open |
| 1 | 8:30-8:50 | Study Hall | | | | |
| 2 | 8:50-9:10 | Study Hall | | | | |
| 3 | 9:10-9:30 | Closed | Closed | Closed | Closed | Closed |
| 4 | 9:30-9:50 | Closed | Closed | Closed | Closed | Closed |
| 5 | 9:50-10:10 | Closed | Closed | Closed | Closed | Closed |
| 6 | 10:10-10:30 | Open | Open | Open | Open | Open |
| 7 | 10:30-10:50 | Typing | Typing | Typing | Typing | Typing |
| 8 | 10:50-11:10 | Typing | Typing | Typing | Typing | Typing |
| 9 | 11:10-11:30 | Typing | Typing | Typing | Typing | Typing |
| 10 | 11:30-11:50 | Lunch | Lunch | Lunch | Lunch | Lunch |
| 11 | 11:50-12:10 | Closed | Closed | Closed | Closed | Closed |
| 12 | 12:10-12:30 | Supervision | of the Lunch | Line (Daily) | | |

APPENDIX G - PART II (continued

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 13 | 12:30-12:50 | Book-keeping | Book-keeping | Book-keeping | Book-keeping | Book-keeping |
| 14 | 12:50-1:10 | Book-keeping | Book-keeping | Book-keeping | Book-keeping | Book-keeping |
| 15 | 1:10-1:30 | Book-keeping | Book-keeping | Book-keeping | Book-keeping | Book-keeping |
| 16 | 1:30-1:50 | Business Law | Business Law | Business Law | Business Law | Business Law |
| 17 | 1:50-2:10 | Business Law | Business Law | Business Law | Business Law | Business Law |
| 18 | 2:10-2:30 | Business Law | Business Law | Business Law | Business Law | Business Law |
| 19 | 2:30-2:50 | Open | Open | Open | Open | Open |
| 20 | 2:50-3:10 | Open | Open | Open | Open | Open |
| 21 | 3:10-3:30 | Open | Open | Open | Open | Open |

APPENDIX G - PART III

Name: Teacher - Large-Small Group Grade: 10

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 0 | 8:20-8:27 | Homeroom | Homeroom | Homeroom | Homeroom | Homeroom |
| 1 | 8:30-8:50 | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist . |
| 2 | 8:50-9:10 | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. |
| 3 | 9:10-9:30 | Open | Open | Open | Open | Closed |
| 4 | 9:30-9:50 | Open | Closed | Open | Open | Open |
| 5 | 9:50-10:10 | Closed | Monitor<br>Large Eng. | Closed | Closed | Small G<br>W. Hist. |
| 6 | 10:10-10:30 | Closed | Monitor<br>Large Eng. | Closed | Closed | Small G<br>W. Hist. |
| 7 | 10:30-10:50 | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Supervision |
| 8 | 10:50-11:10 | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Supervision |
| 9 | 11:10-11:30 | Open | Open | Open | Open | Open |
| 10 | 11:30-11:50 | Large G<br>W. Hist. | Small G<br>W. Hist. | Large G<br>W. Hist. | Small G<br>W. Hist. | Open |

APPENDIX G - PART III (continued)

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 11 | 11:50-12:10 | Large G<br>W. Hist. | Small G<br>W. Hist. | Large G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. |
| 12 | 12:10-12:30 | Lunch | Lunch | Lunch | Lunch | Small G<br>W. Hist. |
| 13 | 12:30-12:50 | Closed | Closed | Closed | Closed | Lunch |
| 14 | 12:50-1:10 | Open | Open | Open | Open | Open |
| 15 | 1:10-1:30 | Closed | Closed | Closed | Closed | Closed |
| 16 | 1:30-1:50 | Small G<br>W. Hist. | Open | Small G<br>W. Hist. | Small G<br>W. Hist. | Closed |
| 17 | 1:50-2:10 | Small G<br>W. Hist. | Open | Small G<br>W. Hist. | Small G<br>W. Hist. | Open |
| 18 | 2:10-2:30 | Super-<br>vision | Small G<br>W. Hist. | Super-<br>vision | Small G<br>W. Hist. | Small G<br>W. Hist. |
| 19 | 2:30-2:50 | Closed | Small G<br>W. Hist. | Closed | Small G<br>W. Hist. | Small G<br>W. Hist. |
| 20 | 2:50-3:10 | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. |
| 21 | 3:10-3:30 | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. | Small G<br>W. Hist. |

APPENDIX H - PART I

Name: Girl Grade: 10

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 0 | 8:20-8:27 | Homeroom | Same | Same | Same | Same |
| 1 | 8:30-8:50 | French | Same | Same | Same | Same |
| 2 | 8:50-9:10 | French | Same | Same | Same | Same |
| 3 | 9:10-9:30 | Large G Geometry | Same | Same | Same | Same |
| 4 | 9:30-9:50 | Large G Geometry | Same | Same | Same | Same |
| 5 | 9:50-10:10 | Large G Biology | Large G English | Large G Biology | Large G English | SRT |
| 6 | 10:10-10:30 | Same | Same | Same | Same | SRT |
| 7 | 10:30-10:50 | SRT | Small G English | SRT | Small G English | Small G English |
| 8 | 10:50-11:10 | SRT | Same | SRT | Same | Same |
| 9 | 11:10-11:30 | Lunch | Lunch | Lunch | Lunch | Lunch |
| 10 | 11:30-11:50 | Large G W. Hist. | SRT | Large G W. Hist. | SRT | Small G W. Hist. |

APPENDIX H - PART I (continued)

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 11 | 11:50-12:10 | Same | SRT | Same | SRT | Same |
| 12 | 12:10-12:30 | Small G Geometry | Small G Geometry | Small G Geometry | Small G Geometry | Small G Geometry |
| 13 | 12:30-12:50 | Same | Same | Same | Same | Same |
| 14 | 12:50-1:10 | Chorus | SRT | Chorus | SRT | Chorus |
| 15 | 1:10-1:30 | Same | Same | Same | Same | Same |
| 16 | 1:30-1:50 | Physical Education | Small G Biology | Physical Education | Small G Biology | Small G Biology |
| 17 | 1:50-2:10 | Same | Same | Same | Same | Same |
| 18 | 2:10-2:30 | Same | Same | Same | Same | Same |
| 19 | 2:30-2:50 | SRT | SRT | SRT | SRT | SRT |
| 20 | 2:50-3:10 | Small G W. Hist. | SRT | Small G W. Hist. | SRT | Health Education |
| 21 | 3:10-3:30 | Same | Same | Same | Vocal Lesson | Same |

## APPENDIX H - PART II

Name: Boy Grade: 11

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 0 | 8:20-8:27 | Homeroom | Same | Same | Same | Same |
| 1 | 8:30-8:50 | Small G Algebra | Same | Same | Same | Same |
| 2 | 8:50-9:10 | Small G Algebra | Same | Same | Same | Same |
| 3 | 9:10-9:30 | SRT | Same | Same | Same | Same |
| 4 | 9:30-9:50 | Physical Education | Study Hall | Physical Education | Study Hall | Study Hall |
| 5 | 9:50-10:10 | Same | Same | Same | Same | Same |
| 6 | 10:10-10:30 | Same | Same | Same | Same | Same |
| 7 | 10:30-10:50 | SRT | Same | Same | Same | Same |
| 8 | 10:50-11:10 | SRT | Same | Same | Same | Same |
| 9 | 11:10-11:30 | SRT | Same | Same | Same | Same |
| 10 | 11:30-11:50 | Lunch | Same | Same | Same | Same |
| 11 | 11:50-12:10 | SRT | Same | Same | Same | Same |

APPENDIX H - PART II (continued)

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 12 | 12:10-12:30 | Large G Algebra | Same | Same | Same | Same |
| 13 | 12:30-12:50 | Glee | SRT | Glee | SRT | Vocal Lesson |
| 14 | 12:50-1:10 | Choir | SRT | Choir | SRT | Choir |
| 15 | 1:10-1:30 | Choir | SRT | Choir | SRT | Choir |
| 16 | 1:30-1:50 | Large G English | Large G History | Large G English | Large G History | SRT |
| 17 | 1:50-2:10 | Same | Same | Same | Same | Same |
| 18 | 2:10-2:30 | French | French | French | French | French |
| 19 | 2:30-2:50 | Same | Same | Same | Same | Same |
| 20 | 2:50-3:10 | Small G English | Small G History | Small G English | Small G History | Small G English |
| 21 | 3:10-3:30 | Same | Same | Same | Same | Same |

APPENDIX H - PART III

Name: Boy Grade: 12

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 0 | 8:20-8:27 | Homeroom | Same | Same | Same | Same |
| 1 | 8:30-8:50 | SRT | Small G English | SRT | Small G English | Small G English |
| 2 | 8:50-9:10 | SRT | Small G English | SRT | Small G English | Small G English |
| 3 | 9:10-9:30 | Small G Government | SRT | Small G Government | SRT | SRT |
| 4 | 9:30-9:50 | Small G Government | SRT | Small G Government | SRT | SRT |
| 5 | 9:50-10:10 | French | French | French | French | French |
| 6 | 10:10-10:30 | French | French | French | French | French |
| 7 | 10:30-10:50 | Large G English | Large G Government | Large G English | Large G Government | SRT |
| 8 | 10:50-11:10 | Large G English | Large G Government | Large G English | Large G Go vernment | SRT |
| 9 | 11:10-11:30 | Lunch | Lunch | Lunch | Lunch | Lunch |
| 10 | 11:30-11:50 | SRT | Large G Physics | SRT | Large G Physics | SRT |

APPENDIX H - PART III (continued)

| Mod | Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|---|
| 11 | 11:50-12:10 | SRT | Large G Physics | SRT | Large G Physics | SRT |
| 12 | 12:10-12:30 | SRT | SRT | SRT | SRT | SRT |
| 13 | 12:30-12:50 | SRT | SRT | SRT | SRT | SRT |
| 14 | 12:50-1:10 | Small G Economics | SRT | Small G Economics | SRT | Small G Economics |
| 15 | 1:10-1:30 | Small G Economics | SRT | Small G Economics | SRT | Small G Economics |
| 16 | 1:30-1:50 | Small G Physics | Physical Education | Small G Physics | Physical Education | Small G Physics |
| 17 | 1:50-2:10 | Small G Physics | Physical Education | Small G Physics | Physical Education | Small G Physics |
| 18 | 2:10-2:30 | Small G Physics | Physical Education | Small G Physics | Physical Education | Small G Physics |
| 19 | 2:30-2:50 | SRT | SRT | SRT | SRT | SRT |
| 20 | 2:50-3:10 | SRT | Large G Economics | SRT | Large G Economics | Health Education |
| 21 | 3:10-3:30 | SRT | Large G Economics | SRT | Large G Economics | Health Education |